



LOUISIANA

30th in Beachwater Quality

37% of samples exceeded national standards in 2010

Polluted urban and suburban runoff is a major threat to water quality at the nation's coastal beaches. Runoff from storms and irrigation carries pollution from parking lots, yards, and streets directly to waterways. In some parts of the country, stormwater routinely causes overflows from sewage systems. Innovative solutions known as green infrastructure enable communities to naturally absorb or use runoff before it causes problems. The U.S. Environmental Protection Agency is modernizing its national rules for sources of runoff pollution and should develop strong, green infrastructure-based requirements.

Most of Louisiana's coastline consists of wetlands. However, there are at least 19 coastal beaches lining nearly 30 miles of the Gulf of Mexico and estuarine shoreline, including the barrier island Grand Isle, as well as some beaches near the Texas border and on the shore of the estuary of Lake Pontchartrain. The state's coastal monitoring program is administered by the Louisiana Department of Health and Hospitals (LDHH).

During 2010, Louisiana's beaches were impacted by the BP oil disaster, which began with the April 20, 2010 explosion on the Deepwater Horizon rig and impacted most of the coastal beaches in the eastern half of the state. Oil flowed from the damaged well for three months, until it was capped on July 15, 2010. A total of 2,232 closing days at 11 beach segments were issued due to the spill in 2010, and many beaches remained closed into 2011 because of oil washing ashore and continued cleanup efforts. NRDC includes all oil spill closure days at all beaches in its oil spill totals, including closure days at beaches that were not monitored weekly for bacteria in 2010 and closure days that occurred outside of the monitoring season.

Also in 2010, beaches in Louisiana continued to experience lingering impacts from hurricanes Katrina and Rita (August and September 2005, respectively) as well as Gustav and Ike (September 2008). Use of Cameron Parish beaches remained below pre-storm levels, although it is slowly recovering as the area is rebuilt. Hackberry Beach in Cameron Parish remained inaccessible.¹

With each water quality sample that is collected, data on water temperature, salinity, tide conditions, weather conditions, and wind direction and speed are also collected. In addition, the total precipitation for the 2 and 3 days prior to sample collection is estimated. No environmental variable was identified that could explain the record high enterococcus densities that were encountered in 2010.¹

KEY FINDINGS IN LOUISIANA

Beachwater Contamination

(% of samples exceeding state standards in 2010)

- Gulf Breeze (77%) in Cameron Parish
- Constance Beach (70%) in Cameron Parish
- Little Florida (67%) in Cameron Parish

Reported Sources of Beachwater Contamination Statewide (number of closing/advisory days)

- 91 (100%) unknown sources

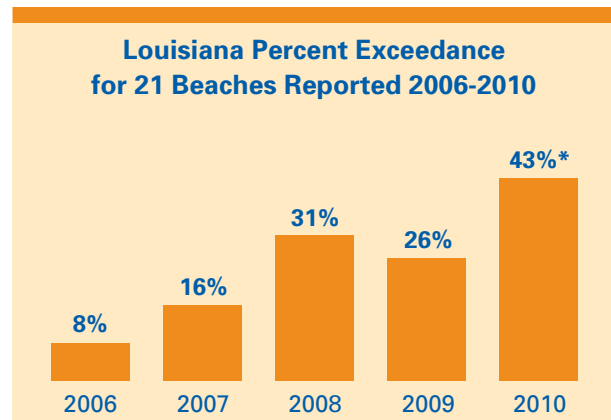
Monitoring Results

In 2010, Louisiana reported 29 coastal beaches. Of these, 27 (93%) were monitored once a week and 1 (3%) was monitored once a month. One beach (3%) was not monitored due to access constraints resulting from previous hurricanes. For this section of the report, NRDC looked at the percent of monitoring samples that exceeded the state's daily maximum bacterial standards. In 2010, 37%* of all reported beach monitoring samples exceeded the state's daily maximum bacterial standards. The beaches with the highest percent exceedance rates in 2010 were Gulf Breeze (77%), Constance Beach (70%), Little Florida (67%), Holly Beach 5 (63%), Rutherford Beach (63%), Holly Beach 4 (60%), and Long Beach (60%), all in Cameron Parish; Cypremort Point State Park (60%) in St. Mary Parish; Holly Beach 1, 2,

3, and 6 (57%) and Martin Beach (50%) in Cameron Parish, and Fontainebleau State Park (43%) in St. Tammany Parish. Cameron Parish had the highest exceedance rate (61%) in 2010, followed by St. Mary (60%), St. Tammany (43%), Orleans (21%), Calcasieu (20%), Lafourche (9%), and Jefferson (8%) parishes.

In addition to beaches monitored by LDHH under the BEACH Act, the Lake Pontchartrain Basin Foundation, a nonprofit, membership-based citizens' organization, has monitored additional beaches and sites around Lake Pontchartrain since 2000, but NRDC was unable to retrieve those monitoring results from the U.S. EPA, and those beaches are not included in this summary.

Pontchartrain Beach was monitored again in 2010 by LDHH as part of an ongoing reexamination of the swim advisory on that portion of Lake Pontchartrain, and Fontainebleau State Park on Lake Pontchartrain has been regularly monitored by the state since the inception of the program.



Sampling Practices: Monitoring is conducted from the beginning of April through the end of October.

The LDHH determines sampling practices, locations, standards, and notification protocols and practices at Louisiana beaches monitored through the BEACH Act. Samples are collected 12 inches below the surface in water that is approximately 3 feet deep. Levels of beach use and perceptions of water quality determine monitoring priorities. Monitoring frequency does not increase after a beach is placed under advisory unless the contamination source has been identified and corrected, in which case more intensive sampling may be conducted.

Closings and Advisories

Total closing/advisory days for 8 events lasting six consecutive weeks or less decreased 81% to 91 in 2010 from 472 in 2009. For prior years, there were 221 days in 2008, 459 days in 2007, 5 days in 2006, and 406 days in 2005. In addition, there were 3 extended events (218 days total) and 25 permanent events (4,963 days total) in 2010. Extended events are those in effect more than six weeks but not more than 13 consecutive weeks; permanent events are in effect for more than 13 consecutive weeks. All closing and advisory days for 8 events lasting six consecutive weeks or less in 2010 were due to monitoring that revealed elevated bacteria levels, as were over half of the permanent closing and advisory days. One-hundred sixty of the extended days and 2,072 of the permanent days were due to the Gulf oil spill. A 42-day contamination advisory that was issued during the oil spill closure at Grand Isle Beach 1 is excluded from this analysis.

Standards and Procedures: LDHH issues beach advisories based on water quality, but does not have the authority to issue beach closings under the beach monitoring program. Local governments, however, can issue closings. Water quality standards are not met if any of the following are exceeded: 1) an enterococcus single-sample maximum standard of 104 cfu/100 ml, 2) an enterococcus geometric mean of 35 cfu/100 ml for five samples taken over a 30-day period, or 3) a fecal coliform geometric mean of 200 cfu/100 ml based on a minimum of five samples taken over no more than a 30-day period. Multiple samples are sometimes taken, and when they are, the results are averaged to determine whether standards are being exceeded.¹ An exceedance of any of these three standards can trigger an advisory, but the fecal coliform standard is rarely exceeded.¹

Other than taking a resample to verify exceedances when the results are in doubt, which rarely happens, there is no protocol for forgoing an advisory when an exceedance is found. It is noteworthy that the majority of advisories in

* Why don't the 2010 percent exceedance values in this summary match? Only samples from a common set of beaches monitored each year from 2006–2010 are included in the bar chart. Because some beaches were not monitored in each of those years, the percent exceedance for this subset of beaches (43%) did not have the same value as the percent exceedance for all of the beaches monitored in 2010 (37%).

Louisiana result from exceedance of the enterococcus geometric mean criterion. If Louisiana issued beach advisories based only on the enterococcus single-sample maximum criterion, as many states do, 37% of the observed exceedances during 2010 would not have resulted in an advisory.¹

Preemptive rainfall advisories are not issued. Louisiana's BEACH Program has examined data collected over many years to assess the relationship between indicator organism densities and environmental conditions (including water temperature, salinity, tide conditions, weather conditions, and wind direction and speed) at its beaches. The models that have been developed for each beach explain only a small fraction of the total variability in indicator organism density and cannot be used to issue precautionary advisories.

Louisiana 2010 Monitoring Results and Closing or Advisory Days					
Beach	Tier	Assigned Monitoring Frequency	Total Samples	% of Samples Exceeding State Standards	Closing or Advisory Days
Calcasieu County					
North Beach–Lake Charles	1	1/wk	30	13%	20 (58)*
South Beach & Rabbit Island	1	1/wk	30	27%	3 (136)*
Cameron County					
Constance Beach	2	1/wk	30	70%	0 (172)*
Gulf Breeze	2	1/wk	30	77%	0 (179)*
Hackberry Beach	2	none	0	NA	0
Holly Beach 1	1	1/wk	30	57%	0 (166)*
Holly Beach 2	1	1/wk	30	57%	0 (179)*
Holly Beach 3	1	1/wk	30	57%	0 (172)*
Holly Beach 4	1	1/wk	30	60%	0 (179)*
Holly Beach 5	1	1/wk	30	63%	0 (179)*
Holly Beach 6	1	1/wk	30	57%	0 (179)*
Little Florida	2	1/wk	30	67%	0 (172)*
Long Beach	2	1/wk	30	60%	0 (172)*
Martin Beach	2	1/wk	30	50%	0 (172)*
Rutherford Beach	2	1/wk	30	63%	0 (179)*
Jefferson County					
Grand Isle Beach 1	2	1/wk	29	7%	0 (224)*
Grand Isle Beach 2	2	1/wk	29	14%	43 (80)*
Grand Isle Beach 3	2	1/wk	30	3%	8 (80)*
Grand Isle State Park 1	1	1/wk	27	7%	7 (224)*
Grand Isle State Park 2	1	1/wk	27	11%	0 (224)*
Grand Isle State Park 3	1	1/wk	28	7%	0 (224)*
Grand Isle State Park 4	1	1/wk	28	4%	0 (224)*
Lafourche County					
Fourchon 1	1	1/wk	24	13%	0 (238)*
Fourchon 2	1	1/wk	23	9%	0 (238)*
Fourchon 3	1	1/wk	23	9%	0 (238)*
Fourchon 4	3	1/mo	6	0%	0 (238)*

Beach	Tier	Assigned Monitoring Frequency	Total Samples	% of Samples Exceeding State Standards	Closing or Advisory Days
Orleans County					
Pontchartrain Beach	NA	1/wk	29	21%	0 (365)*
St. Mary County					
Cypremort Point State Park	1	1/wk	30	60%	0 (179)*
St. Tammany County					
Fontainebleau State Park	1	1/wk	30	43%	10 (111)*

*Reported closing or advisory days are for events lasting six consecutive weeks or less. Number of days in parentheses are for events lasting more than six consecutive weeks.

NOTES

1 Louisiana Department of Health and Hospitals. Louisiana BEACH Grant Report 2010 Swimming Season. March 2011.

Testing the Waters 2011 reflects data as of June 27, 2011.